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While FIG. 5 depicts an example system for capturing and analyzing sounds in a shopping facility, FIG. 6 is a flow diagram including example operations for use of such a system.

FIG. 6 is a flow diagram depicting example operations for capturing and analyzing sounds in a shopping facility, according to some embodiments. The flow begins at block 602.

At block 602, sounds are received. For example, the sounds are received by sound sensors in a shopping facility. The sound sensors can be located throughout the shopping facility or in specific areas of the shopping facility. In some embodiments, the sound sensors are located near POS terminals. The sound sensors are configured to capture voices and other audio resulting from activity near the POS terminals. The flow continues at block 604.

At block 604, audio data is transmitted. For example, the sound sensors can transmit the audio data to a control circuit via a communications network. The audio data can include the sounds received by the sound sensors. Additionally, in some embodiments, the audio data can include timestamps and/or markers that, for example, identify from which sound sensor the audio data originated. The flow continues at block 606.

At block 606, an indication of an employee is received. For example, a control circuit receives the indication of the employee. In some embodiments, a computer located at the POS terminal or in a back office can transmit the indication of the employee to the control circuit. For example, the computer can transmit an indication as to which employee is logged in, or which employee is assigned, to the terminal. In other embodiments, the control circuit can determine the indication of the employee based on less explicit information. For example, the control circuit can determine the indication of the employee based on a current time and a work schedule for employees. The flow continues at block 608.

At block 608, the audio data and the indication of the employee are correlated. For example, the control circuit correlates the audio data and the indication of the employee. The control circuit correlates the audio data and the indication of the employee by associating the audio data with the employee. This correlation allows a performance metric to be associated with a specific employee. The flow continues at block 610.

At block 610, a performance metric for the employee is determined. For example, the control circuit determines the performance metric for the employee. The performance metric can be any calculation or statistic relevant to an employee's performance. For example, the performance metric can be related to speed (e.g., time per transaction, line length, etc.), efficiency (e.g., resources used per transaction, number of items per transaction, etc.), procedures to be followed (e.g., greeting customers, engaging customers in a conversation, etc.), etc.

Those skilled in the art will recognize that a wide variety of other modifications, alterations, and combinations can also be made with respect to the above described embodiments without departing from the scope of the invention, and that such modifications, alterations, and combinations are to be viewed as being within the ambit of the inventive concept. For example, although portions of this description refer to determining a single performance metric for an employee, embodiments can be used to determine multiple performance metrics simultaneously for an employee, such as items per bag and line length, line length and guest greeting, or any combination of two or more performance

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metrics. Additionally, although portions of this description refer to determining performance metrics for a specific employee, in some embodiments performance metrics can be determined for more than one employee. For example, embodiments of the system can be used to determine performance metrics for a group of employees, all employees at a shopping facility, all employees in region, specific types of employees, etc.

In some embodiments, a system comprises one or more sound sensors distributed throughout at least a portion of a shopping facility and configured to receive at least sounds resulting from activity in the shopping facility and a control circuit. The control circuit is communicatively coupled to the one or more sound sensors. The control circuit is configured to receive, from at least one of the one or more sound sensors, audio data, receive an indication of an employee, correlate the audio data and the indication of the employee, and determine, based at least in part on the audio data and the indication of the employee, a performance metric for the employee.

In some embodiments, a method comprises receiving, via one or more sound sensors distributed throughout at least a portion of a shopping facility and configured to receive at least sounds resulting from activity in the shopping facility, audio data, transmitting, via a communications network to a control circuit, the audio data, receiving, at the control circuit, and indication of an employee, correlating, by the control circuit, the audio data and the indication of the employee, and determining, by the control circuit and based at least in part on the audio data and the indication of the employee, a performance metric for the employee.

In some embodiments, a system comprises one or more sound sensors distributed throughout at least a portion of a shopping facility and configured to receive at least sounds resulting from activity in the shopping facility and a control circuit. The control circuit is communicatively coupled to the one or more sound sensors. The control circuit is configured to receive, from at least one of the one or more sound sensors, audio data, receive an indication of an employee, correlate the audio data and the indication of the employee, and determine, based at least in part on the audio data and the indication of the employee, a performance metric for the employee, wherein the performance metric includes one or more of a number of items per bag, occurrence of a conversation between the employee and a guest of the shopping facility, and a length of a line at a terminal associated with the employee.

What is claimed is:

1. A system in a shopping facility for determining a performance metric for an employee, the system comprising:

one or more sound sensors distributed throughout at least a portion of the shopping facility and configured to receive at least sounds resulting from activity in the shopping facility; and

a control circuit communicatively coupled to the one or more sound sensors, the control circuit being configured to:

receive, from at least one of the one or more sound sensors, audio data, wherein the audio data includes sounds associated with items being scanned and sounds associated with bags;

determine, based on the sounds associated with bags, a number of bags used;

determine, based on the audio data associated with items being scanned, a number of items scanned;